

In the Claims:

Please cancel claims 1-10 and add the following new claims:

11. A method for synchronization in a full-duplex-capable radio transmission system with CDMA access with TDD mode, having a central radio base station and a plurality of subscriber stations which are independent of one another, a matched filter with a downstream amplitude threshold value switch being assigned in each case to the individual subscriber stations at a receiver end, the method comprising the steps of:

- AG
- a) generating a preamble at the radio base station by spreading with a specific maximum sequence or gold sequence which is uniform for the radio transmission system;
 - b) transmitting the preamble synchronously in all telecommunications channels to all subscriber stations before actual user data transmission;
 - c) receiving the preamble at the subscriber stations;
 - d) feeding the received preamble to an input of the respective matched filter of a subscriber station;
 - e) forwarding an output signal of the matched filter to the amplitude threshold value switch; and
 - f) generating a trigger signal at the amplitude threshold value switch when a predefinable threshold Tr_1 is exceeded.

12. A method as defined in claim 11, further including averaging over time at the subscriber station synchronization information which is determined by means of a priori knowledge of burst structure and duration.

13. A method as defined in claim 11, including providing the radio base station with a matched filter with a downstream amplitude threshold value switch, and in each case transmitting from a subscriber station a specific synchronization sequence to the radio base station within a delay time of the actual user data transmission, receiving the synchronization sequence at the radio base station and determining concrete signal transit time between the radio base station and the corresponding subscriber station by matched filtering with an upper transgression of an amplitude threshold value being evaluated as a trigger criterion at the filter output.

14. A method as defined in claim 13, wherein the step of transmitting the synchronization sequence includes transmitting the synchronization sequence comprising a preamble and a plurality of identical symbols which are spread with subscriber-specific or radio-system-specific maximum sequences or gold sequences, the individual symbols being transmitted shifted successively by one system clock t_{sample} with respect to one another in each case, the radio base station using all the amplitude values at the output of the matched filter at precise times of the symbol change for evaluation purposes, and using a time when an amplitude threshold value is exceeded when a preamble is received as a reference time value.

15. A method as defined in claim 13, including transmitting a status signal from the radio base station to the subscriber station via the central service channel, the status signal specifying which subscriber station is to transmit its synchronization sequence, and, after the evaluation of the signal transmit time determined in the radio base station, transmitting an item of information to the respective subscriber station via the service channel, said item of information specifying at which subscriber-specific starting times the transmission of user data or control information in an uplink should start so that parallel transmissions of all the subscriber stations are received in synchronism with a chip in the receiver of the radio base station.

16. A method as defined in claim 14, including using orthogonal gold sequences of a length of one symbol in each case for the code spreading of the data both in an uplink and in a downlink.

17. A method as defined in claim 11, wherein adjacent radio transmission systems at least one of operate in different frequency positions, use different spread sequences in each case and use spread sequences from different code families.

18. A method as defined in claim 17, including operating respective radio base stations of the adjacent radio transmission systems synchronously with one another in an uplink cycle and in a downlink cycle.

19. A device for synchronization within a full-duplex-capable radio transmission system with CDMA access with TDD mode, comprising: a central radio base station; a plurality of subscriber stations which are independent of one another; a matched filter with an amplitude threshold value switch assigned to each subscriber station at a reception end; and at least one matched filter with an amplitude threshold value switch assigned to the radio base station at a reception end, the radio base station being operative to generate a preamble by spreading with a specific maximum sequence or gold sequence which is uniform for the radio transmission system, said preamble being transmittable synchronously in all telecommunications channels from an actual user data transmission to the subscriber station.

20. A device as defined in claim 19, wherein the radio transmission system is a wireless local loop system.
